AbstractID: 14565 Title: Theory and Applications in MR Imaging of Compressive Sensing

This talk will introduce the concept of compressed sensing (CS). We will begin with some intuitive justification for CS. Compressed sensing will then be discussed from a more rigourous perspective, and theoretical results will be presented. The application of the CS theory to magnetic resonance imaging will then be discussed. Finally, we shall discuss the split Bregman method - a fast numerical scheme for reconstructing images from compressed sensing data.

Learning Objective:
1) Understand the basic theory of compressed sensing, and the advantages it offers.
2) Understand how compressed sensing can be applied to MRI
3) Understand the computational challenges of compressed sensing, and the split Bregman method for reconstructing images from compressed data.